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ABSTRACT

This study was designed to: (1) obtain ecological data on the social behaviors of children in the preschool classroom especially in freeplay settings, and (2) identify characteristics of the physical environment and program variables which support, attenuate, or preclude social behaviors and social development. Observations were made of 16 3-, 4-, and 5-year-olds in many settings within a university laboratory preschool classroom over a period of 6 weeks, using a 7-category observation schedule. The schedule comprised social interactions, materials interactions, both social and materials interactions, and no interaction; each of the interactions was also judged positive or negative. In general, it was found that environmental supports (activities or equipment) which might have set the occasion for, and strengthened social behavior were not available. High levels of social behavior, however, occurred in areas where there was an ample supply of materials and no apparent "need" to interact. The results of this study suggest that the rate of social behavior was low. At best, the level of social behavior was more comparable to that of younger children. When social behaviors occurred, their distribution among the settings was consistent with data obtained in samples having higher overall rates of social interaction. (GO)

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An Ecological study of Freeplay in a Preschool Classroom

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An Ecological Study of Freeplay in a Preschool Classroom

Russell M. Tyler

Preschool environments are designed to stimulate and enhance the social and intellectual development of young children (Report to the President: White House Conference on Children, 1970). However, as Quilitch and Risley (1973) point out, experimentalists seldom study the relationships between environmental variables and social behaviors and social development.

Typically, experimentalists have focussed on discrete events immediately preceding or following an instance of social behavior, and have relied totally on these local events to account for the occurrence of social behavior. An example of this is a recent study by Goetz, Thomson, and Etzel (in press), in which social behavior in an individual child was examined as a function of prompts and response consequences.

Others have examined social behavior in relationship to global program variables and/or subject variables. Reuter and Yunik (1973), for example, studied variations in quality and quantity of social behavior as correlates of educational programs (Montessori, university laboratory preschool, and parent-cooperative) and subject variables (sex and age).

Such studies can make a contribution to the understanding of what occurs in early educational environments and to the improvement of the efficiency of early education. The individual studies of the functional relationships between local environmental variables and social behavior facilitate the remediation of deficits and/or excesses in individual social repertoires. They permit "doing something" about the behavior of children; they help to direct

the behaviors of teachers.

Studies of programs and common subject variables serve a similar function. They permit the identification of relationships between programs and outcomes, and they provide normative data against which the behavior of individuals or groups can be measured. With data from such studies, program choices and behavioral objectives can be made.

The focus on discrete events immediately surrounding a behavior ignores the physical environment and the program operating in the environment as functional variables. It ignores what can be a relatively pervasive and permanent force operating on the behavior of all individuals within an environment. The focus on global program variables and/or common subject variables can be too crude or too insensitive an approach to dealing with behavior.

There is an alternative. Shure (1963) examined the physical-environmental influences in preschool freeplay. Her focus was on the art, book, doll, games, and block areas and the behaviors which occurred in these settings.

In the absence of experimenter intervention, she found, among other things, that the block area was the most "popular," the art area was second, and the book area was the least popular. The block area was more popular with boys, art with girls. Her data also indicate that the children's behavior was relevant to the activity, positive in affect, constructive in content, and social in nature.

In 1968, Buell, Stoddard, Harris, and Baer, representative of the individual-subject experimentalists, reported the amelioration of motor and social deficits through encouraging the use of outdoor play equipment and providing pos-

itive consequences for such use. Social behaviors, per se, were neither encouraged nor consequated, but they increased as equipment use increased.

This was a notable recognition of the role of environmental factors in social behavior and social development. With the publication of a call for the integration of experimental and ecological psychology (Bijou, Peterson, and Ault, 1968), it might have been assumed that increased attention to environmental variables might be observed.

However, it was not until Quilitch and Risley (1973) reported on the relationships between children's play and social and isolate toys that there was any evidence of such a response. This has been followed by a number of studies, many not yet published, by Risley and his colleagues.

The present study was undertaken to obtain ecological data, particularly with regard to social interactions, in a preschool classroom. The intent was to obtain information about the behaviors of the children in the classroom as they relate to freeplay settings. The intent was to identify characteristics of the physical environment and the program variables of the environment which support, attenuate, or preclude social behaviors and social development. Any information so obtained then would be available to the lead teacher to set the occasion for program modifications within an experimental framework.

METHOD

Subjects and Setting

Subjects were 16 children (9 male, 7 female) enrolled in a university laboratory preschool class which met four afternoons a week. The number of children present during any observation ranged from nine to fifteen, with an average of 12. There were 4 3-yr-olds, 6 4-yr-olds, and 5 5-yr-olds. The age of one

child was not available. Four adults always were present.

The freeplay settings within the classroom are shown in Figure 1, and included a housekeeping, books and records, blocks, easel, and "other" art areas. The predominant use of each setting is used to identify it, and it should be noted that some areas occasionally were used as other settings. "Other" art consisted of collage, finger painting and play dough, or clay, at separate times.

Definitions

Social interactions (S) were defined as verbal behaviors directed toward a peer, the passing of materials to a peer, physical contact with a peer, or simultaneous-cooperative play. The latter, by definition, had to involve joint use of materials to produce a single product, and the only instances recorded occurred in the block area. In every instance, each child added units (blocks or figures) to a common structure.

Materials interactions (M) were defined as hand contact with the materials, other than furniture, in an area, without simultaneous social interaction. When materials interactions and social interactions occurred simultaneously, they were recorded as such (S/M).

Interactions also could be recorded as positive or negative. By definition, negative interactions consisted of physical abuse or damage, such as striking a peer or throwing an object not usually played with by throwing.

The absence of any interaction also was recorded. If, when observed, a child was not engaged in any kind of interaction in a setting, a zero (0) was recorded.

Observation Procedure

PRESCHOOL PLAY OBSERVATION

Date:_____ Time:_____

No. of Children:_____ No. of Adults:_____

CODE: S = social interaction; M = materials interaction; S/M = both social and materials interaction
+ = positive interaction; - = negative interaction

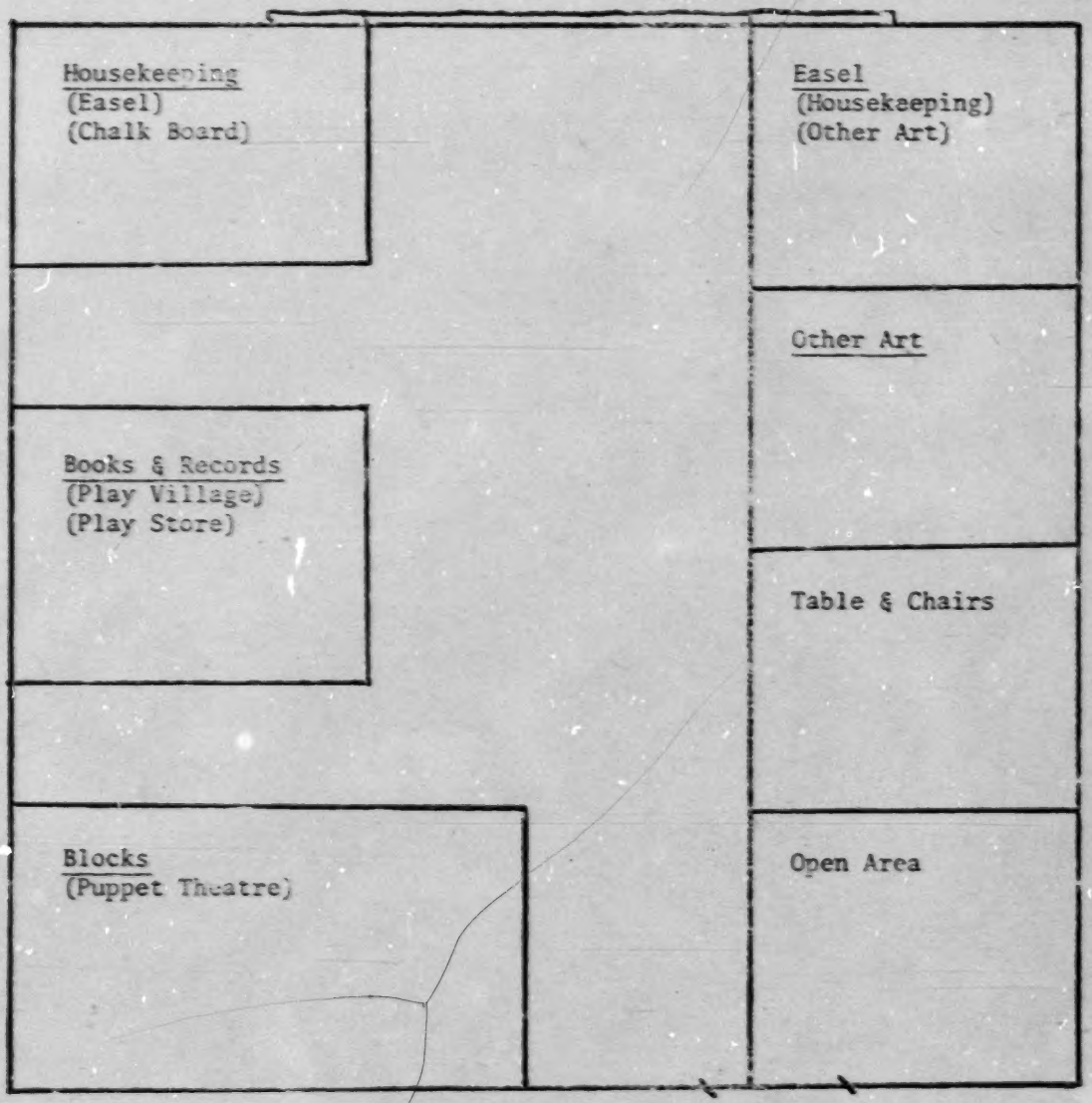

Fig. 1. Data sheet and schematic of classroom.

Observations were made on seven days, over a period of six weeks. Observations were not made during one of the six weeks due to the absence of the lead teacher and a holiday schedule.

Observation was begun, on any day, when all children present had entered a freeplay setting and the classroom clock indicated a time of one-twelth of an hour (e.g., 2:00 pm, 2:05 pm). Each setting was observed long enough to record the number of children present, the sex of each, and the interaction of each. The next area then was observed, continuing through all areas.

The next observation cycle was begun at the next one-twelth of an hour (e.g., 2:05 pm, or 2:10 pm). Five observation cycles were completed each day, and the full range of the approximately 30-min freeplay period was sampled.

RESULTS

There were 81 social interactions observed; 15.7% of the time, when observed, children were engaged in social interaction. Of the 81, 15 (18.5%) occurred in the housekeeping area, 44 (54.3%) in the block area, 16 (19.8%) in the easel area, 2 (2.5%) in the "other" art area, and 4 (4.9%) in other areas. Combining easel and "other" art frequencies, 18 (22.2%) occurred in the art areas, and with the block area 76.5% of the observed social interactions are accounted for. These data are shown in Table 1.

The number of children occupying each area during the first observation of each day is shown in Table 2. In terms of the number of appearances at the beginning of freeplay, there were 4 (5.0%) in the housekeeping area, 21 (26.3%) in the block area, 9 (11.3%) in the easel area, 34 (42.4%) in the "other" art

TABLE 1

Social Interactions Occurring in each Area

	Housekeeping	Block	Easel	"Other" Art	Other
f	15	44	16	2	4
%	18.5	54.3	19.8	2.5	4.9

TABLE 2

Occupancy of each Area
on the First Observation of each Day

	Housekeeping	Block	Easel	"Other" Art	Other
Day 1	1	3	1	5	2
2	1	4	0	4	2
3	1	2	2	3	1
4	0	4	0	9	0
5	1	4	2	4	1
6	0	0	2	4	5
7	0	4	2	5	1
Sum	4	21	9	34	12
%	5.0	26.3	11.3	42.4	15.0

area, and 12 (15.0%) in other areas. The combined art areas account for 53.7% of the appearances, and with the block area 80% of the appearances are accounted for.

Table 3 shows the number of males and females in each area at the beginning of freeplay each day. Of those children appearing in the housekeeping area, 25% were males, in the block area 66.7% were males, in the easel area 77.8% were males, in the "other" art area 29.4% were males, and in the other areas, 58.3% were males and 41.7% were females.

On 17 occasions, children were observed not engaged in social and/or materials interactions. This represents 3.3% of the 515 occasions on which an interaction could have occurred. On no occasion was a negative interaction observed.

DISCUSSION

The 15.7% level of social interactions obtained in this study ostensibly is consistent with the data reported by Reuter and Yunik (1973). The University Laboratory population on which they reported was drawn from a previous year's enrollment of the laboratory preschool in which the subjects of the present study are enrolled. They report 16.56% social interactions with peers, a difference of less than 1% from the figure obtained in the present study.

However, Reuter and Yunik used a more restrictive definition of social interaction in describing their procedure, and distinguished, in that section, between social initiations (social overtures) and social interactions (initiations to which there was a response). It is assumed that their data are the more restrictively defined social interactions. If so, the present figure of 15.7% does not compare favorably, in that the definition used in the present

TABLE 3

Occupancy of each Area
on the First Observation of each Day
by Sex

	Housekeeping		Block		Easel		"Other" Art		Other	
	M	F	M	F	M	F	M	F	M	F
Day 1	0	1	3	0	0	1	2	3	0	2
2	0	1	1	3	0	0	0	4	2	0
3	0	1	2	0	1	1	0	3	1	0
4	0	0	2	2	0	0	4	5	0	0
5	1	0	4	0	2	0	1	3	0	1
6	0	0	0	0	2	0	1	3	3	2
7	0	0	2	2	2	0	2	3	1	0
Sum	1	3	14	7	7	2	10	24	7	5
%	25	75	67	33	78	22	29	71	58	42

study is equivalent to that of social initiations. It may be that the level of social behavior observed in the present study is half, or less than half, that observed by Reuter and Yunik.

If the assumption of exact comparability between the present data and the past data is maintained (if 15.7% is equivalent to 16.56%), a second comparison with the Reuter and Yunik data suggests that the level of social behavior observed is less than what could be expected. In the present study, 3-yr-olds comprise only 27% of the sample, whereas in the Reuter and Yunik study, 3-yr-olds comprised 51% of the University Laboratory sample.

Although 73% of the present sample are 4- and 5-yr-olds, the observed level of social behavior is more similar to the level of peer interactions that Reuter and Yunik report for 3-yr-olds (17.02%). Based on their data, a level of 25% to 33% might be anticipated.

In general, the environmental supports which might have set the occasion for, and strengthened, social behavior were not observed. There were no pieces of equipment or activities available which required social interaction for use. Rather, it was quite possible to engage in lengthy interactions with equipment and materials quite independently.

In the "other" art area, each child was supplied with all of the materials necessary for successful completion of a product. In the (spacious) block area, six or more children could play with an ample supply of materials for each child. There was no "need" to interact, as may be the case when children must share supplies or take turns in gaining access to essential items. In spite of this, 76.5% of the social behavior occurred in these two areas, suggesting that it might be possible to plan ecological arrangements in these areas which would foster social behavior with greater frequency.

The easel area is one in which the physical arrangement, by and large, precluded social behavior. With paper available on either side of a single easel, everything necessary for the use of the easel was available to each child independently, and there was a physical barrier to interaction. This was surmounted (accounting for the 19.8% figure reported for this area) only when two children with a known, and notable, history of social interactions with each other (buddies) used the easel for a full freeplay period. Each made excursions around the easel to interact with the other child.

Given what may be a relatively low rate of social behavior, for the above or other reasons, the distribution of those that occurred was consistent with the findings reported by Shure (1963). She reported 45% of the social interactions as occurring in the block area (54.3% in the present study), and 17% in the art area (22.2% in the present study).

The results of this study, then, in terms of social behavior, suggest that the rate probably is low. At best, the level of social behavior is more comparable to that of younger children. When they occur, their distribution among the settings is consistent with data obtained in samples having higher overall rates of social interaction. In this classroom, the problem, if there is one, is associated with rate and not with distribution.

As with the distribution of social behavior, the children in this study show patterns of behavior similar to those reported by Shure (1963). The art and block areas are the most popular, and more boys than girls use the block area, and more girls than boys use the art area. Finally, 96.7% of the time, children were interacting, positively, with materials and/or peers.

The data obtained in this study provide an ecological description of the classroom which is consistent with the description reported in other studies of preschool freeplay settings, and, on that basis, has some face validity. Further, the data and their implications suggest a reasonable task for the teaching staff, should they accept the indication that the rate of social behavior needs to be increased. And, inferences from the data suggest the kinds of arrangement changes which might encourage increased levels of social behavior. In essence, then, this approach simultaneously appears to serve both descriptive and prescriptive functions.

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